Listing of the Claims

1. **(currently amended)** A dispersion compensating optical fiber, comprising:

a segmented core having at least three segments, including a central core segment having an outer radius R_1 in the range of between about 1.5 μm and 2.0 μm, and a moat segment having an outer radius R_2 in the range of between about 4.5 μm and 6.5 μm, the refractive index profile being selected to provide

total dispersion at 1595 nm between about -95 ps/nm-km and -225 ps/nm-km; and

a dispersion slope more negative than -1.0 ps/nm^2-km at 1595 nm.

2. **(original)** The dispersion compensating optical fiber of claim 1 wherein the total dispersion at 1595 nm is between about -110 ps/nm-km and -150 ps/nm-km.

3. **(original)** The dispersion compensating optical fiber of claim 1 wherein the total dispersion is between about -80 ps/nm-km and -190 ps/nm-km over a wavelength range from about 1570 nm to 1620 nm.

4. **(original)** The dispersion compensating optical fiber of claim 1 wherein at least one of the segments has an α-profile where α is between about 2.0 and 2.2.

5. **(original)** The dispersion compensating optical fiber claim 1 wherein $\Delta_1\%$ is positive, $\Delta_2\%$ is negative, and $\Delta_3\%$ is positive.

6. **(currently amended)** The dispersion compensating optical fiber of claim 5 ~~further comprising a~~ wherein the ~~central core segment having has positive~~ $\Delta_1\%$ greater than 1.5%, ~~a moat segment adjoining the central core segment and having a negative~~ $\Delta_2\%$ more negative than –0.4%, and a ring segment adjoining the moat segment having a positive $\Delta_3\%$ greater than 0.7%.

7. **(original)** The dispersion compensating optical fiber of claim 5 wherein a volume of the central core segment is in the range of about 9 units and 11 units, and a volume of the ring segment is in the range of about 40 units to 47 units.

8. **(currently amended)** The dispersion compensating optical fiber of claim 1 ~~further comprising:~~ wherein

~~a~~ the central core segment ~~having~~ has a $\Delta_1\%$ in the range of about 1.5% to 2.0% ~~and a radius R_1 in the range of about 1.5 μm to 2.0 μm~~,

~~a~~ the moat segment ~~having~~ a $\Delta_2\%$ in the range of about -0.3% to -0.9% ~~and a radius R_2 in the range of about 4.5 μm to 6.5 μm~~, and

a ring segment having a $\Delta_3\%$ in the range of about 0.6% to 1.1%, a mid point radius R_3 in the range of about 6.0 μm to 8.0 μm.

9. **(currently amended)** The dispersion compensating optical fiber of claim 1 further comprising:

~~a~~ the central core segment having a positive $\Delta_1\%$ greater than 1.7%,

~~a~~ the moat segment adjoining the central core segment having a negative $\Delta_2\%$ more negative than –0.5%, and

a ring segment adjoining the moat segment having a positive $\Delta_3\%$ greater than 0.8%.

10. **(currently amended)** The dispersion compensating optical fiber of claim 1 further comprising a ring segment having a volume of the ring segment greater than about 40 units.

11. **(original)** The dispersion compensating optical fiber of claim 1 further comprising a ring segment having $\Delta_3\%$ of greater than 0.7%.

12. **(original)** The dispersion compensating optical fiber of claim 11 further comprising a $\Delta_3\%$ of the ring segment between 0.7% and 1.0% and a midpoint radius R3 between 6.5 μm and 8.0 μm.

13. **(currently amended)** The dispersion compensating optical fiber of claim 1 ~~further comprising:~~ wherein

~~a~~ the central core segment ~~having~~ has a $\Delta_1\%$ in the range of about 1.7% to 1.9% and ~~a~~ the radius R_1 in the range of between about 1.7 μm to 1.9 μm,

~~a~~ the moat segment ~~having~~ has a $\Delta_2\%$ in the range of about –0.5% to -0.7% and ~~an~~ the radius R_2 ~~of~~ is between 5.0 μm and 6.0 μm, and

a ring segment having a $\Delta_3\%$ in the range of about 0.75% to 0.9%, a midpoint radius R_3 in the range of about 6.5 μm to 8.0 μm, and a width in the range of about 0.7 μm to 1.2 μm.

14. **(original)** The dispersion compensating optical fiber of claim 1 further including a kappa value defined as the dispersion at 1595 nm divided by the dispersion slope at 1595 nm of between 90 nm and 110 nm.

15. **(original)** The dispersion compensating optical fiber of claim 1 further including a kappa value defined as the dispersion at 1595 nm divided by the dispersion slope at 1595 nm of between 90 nm and 105 nm.

16. **(original)** The dispersion compensating optical fiber of claim 1 further including a kappa value defined as the dispersion at 1595 nm divided by the dispersion slope at 1595 nm of between 95 nm and 100 nm.

17. **(original)** The dispersion compensating optical fiber of claim 1 further comprising a range of kappa values defined as the dispersion at a particular wavelength divided by the dispersion slope at the particular wavelength over the range of 1570 nm to 1620 nm of between 80 nm to 155 nm.

18. **(original)** The dispersion compensating optical fiber of claim 17 further comprising a range of kappa values defined as the dispersion at a particular wavelength divided by the dispersion slope at the particular wavelength over the range of 1570 nm to 1620 nm of between 85 nm to 110 nm.

19. **(currently amended)** The dispersion compensating optical fiber of claim 1 further comprising a pin array of less than 7 dB at 1595 nm wound on ten 0.67 mm diameter pins spaced 5 mm center to center.

20. **(original)** The dispersion compensating optical fiber of claim 1 further comprising a cutoff wavelength for a next higher order mode above LP_{01}, the cutoff wavelength being less than 2025 nm.

21. **(original)** The dispersion compensating optical fiber of claim 1 further comprising an effective area at 1595 nm of greater than 15 μm^2.

22. **(original)** The dispersion compensating optical fiber of claim 21 further comprising an effective area at 1595 nm of greater than 17 μm^2.

23. **(original)** The dispersion compensating optical fiber of claim 1 further comprising an dispersion slope over the wavelength range of between about 1570 nm and 1620 nm of between –0.7 ps/nm^2-km and –2.5 ps/nm^2-km.

24. **(original)** The dispersion compensating optical fiber of claim 23 further comprising an dispersion slope over the wavelength range of between about 1570 nm and 1620 nm of between -1.0 ps/nm^2-km and –1.8 ps/nm^2-km.

25. **(original)** The dispersion compensating optical fiber of claim 1 further comprising an dispersion slope at 1595 nm of between -1.0 ps/nm^2-km and –2.5 ps/nm^2-km.

26. **(original)** The dispersion compensating optical fiber of claim 1 further comprising an dispersion slope at 1595 nm of between -1.2 ps/nm^2-km and -1.5 ps/nm^2-km.

27. **(original)** The dispersion compensating optical fiber of claim 1 further comprising an dispersion slope at 1595 nm more negative than -1.2 ps/nm^2-km.

28. **(original)** The dispersion compensating optical fiber of claim 1 further comprising dispersion slope that is more negative than –0.7 ps/nm^2-km over the entire L-band from 1570 nm to 1620 nm.

29. **(original)** The dispersion compensating optical fiber of claim 28 further comprising a dispersion slope that is more negative than –1.2 ps/nm^2-km over the entire L-band from 1570 nm to 1620 nm.

30. **(canceled)**

31. **(currently amended)** The dispersion compensating optical fiber of claim ~~30~~ 1 further comprising a ring segment having ~~a~~ an outer radius R_4 of the ring segment in the range of between about 10 μm and 12 μm.

32. **(currently amended)** An optical transmission system having a dispersion compensating optical fiber, wherein the dispersion compensating fiber comprises:

a segmented core having at least three segments, including a central core segment having an outer radius R_1 in the range of between about 1.5 μm and 2.0 μm, and a moat segment having an outer radius R_2 in the range of between about 4.5 μm and 6.5 μm, the refractive index profile being selected to provide

total dispersion at 1595 nm between about -95 ps/nm-km and -225 ps/nm-km; and

a dispersion slope more negative than -1.0 ps/nm^2-km at 1595 nm.

33. **(original)** The optical transmission system of claim 32 further comprising a non-zero dispersion shifted fiber coupled to the dispersion compensating fiber, the non-zero dispersion shifted fiber having a dispersion slope of between about 0.065 and 0.08 ps/nm^2-km at 1595 nm.

34. **(original)** The optical transmission system of claim 33 wherein the non-zero dispersion shifted fiber has a dispersion of between about 6.5 and 8.5 ps/nm-km at 1595 nm.